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This listing of the claims replaces all prior versions in the application.

**Listing of Claims:**

1. (Previously Presented) Resorbable bone replacement and bone formation material based on porous  $\beta$ -tricalcium phosphate ( $\beta$ -TCP), produced by
  - (a) baking a phosphate powder of a chemical composition having residue on baking which yields theoretically chemically pure tricalcium phosphate;
  - (b) forming blanks having microporosity using the baked  $\beta$ -tricalcium phosphate ( $\beta$ -TCP); and
  - (c) providing the baked blanks with substantially tubular pores, wherein the  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) is baked at least twice and the formation of the thermodynamically stable adjacent phases of  $\beta$ -TCP is inhibited, wherein the method further comprises;
    - (i) powdering a presynthesis product obtained according to step (a),
    - (ii) optionally baking the powdered presynthesis product together with phosphate powder according to step (a) and powdering the material obtained and optionally repeating step (ii) at least once;
    - (iii) compressing the powdered product obtained in step (i) or step (ii) to form the blanks of step (b) and subjecting the blanks formed to final ceramic baking; and
    - (iv) subjecting the baked blanks, at least about 99.5% of which consists of pure  $\beta$ -tricalcium phosphate ( $\beta$ -TCP), to step (c), wherein the baked blanks are resorbable *in vivo*.
2. (Previously Presented) Formation material according to claim 1, wherein the formation material has chemical and crystalline purity, a structure, microporosity and macroporosity that make possible rapid, foreign-body-reaction-free, biochemically orientated integration and resorption in bone.
3. (Previously Presented) Resorbable bone replacement and bone formation material, produced by

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- (i) baking phosphate powder of a chemical composition having a residue on baking which yields theoretically chemically pure tricalcium phosphate as a presynthesis product, and powdering that presynthesis product;
- (ii) baking the powdered presynthesis product and powdering the material obtained and optionally repeating step (ii) at least once;
- (iii) compressing the powdered product obtained in step (ii) to form shaped blanks of resorbable  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) having microporosity and subjecting the blanks formed to ceramic baking; and
- (iv) providing the compressed baked blanks with substantially tubular macropores.

4. (Previously Presented) Formation material according to claim 1, obtainable by baking at a temperature below 1200°C in the  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) phase region.

5. (Previously Presented) Formation material according to claim 1, obtainable by using in step (ii) and/or step (iii) from 1 to 50% by weight, especially from 1 to 25% by weight, phosphate powder, the weight based on the total weight of phosphate powder and already baked material.

6. (Previously Presented) Formation according to claim 1, wherein the baked  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) comprises sintered primary particles, wherein the blanks have a generally uniform sintered structure with interconnected microporosity having pore widths in the region of from about 2  $\mu\text{m}$  to 15  $\mu\text{m}$  and/or a matrix of the  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) primary particles that is tightly sintered to microporosity, especially with microparticles that are loosely bound in the sintered structure and/or phagocytosable, having a diameter of max. 15  $\mu\text{m}$ , being absent.

7. (Previously Presented) Formation material according to claim 1, wherein the baked blanks comprise a microporosity of at least about 20% by volume, based on the overall porosity, the overall porosity defined by micro- and macro-porosity.

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8. (Previously Presented) Formation material according to claim 1, wherein the compressing step comprises providing the compressed blank with tubular pores with the aid of a compression mould of optionally more than one part.

9. (Previously Presented) Formation material according to claim 1, wherein the providing the baked blanks with substantially tubular pores comprises providing the baked blank with the substantially tubular pores by milling and/or drilling.

10. (Previously Presented) Formation material according to claim 1, wherein the blanks are in block form having a block surface, with 2- or 3-dimensionally oriented macroscopic substantially tubular pores passing through each block, which are in each case arranged substantially perpendicular to the block surface and/or to an imaginary plane laid through the block or against the block and form an interconnecting system of the tubular pores.

11. (Previously Presented) Formation material according to claim 10, wherein a block intended for implantation, together with its substantially tubular pores, can be so oriented for implantation or on processing prior to implantation so that at least one direction of orientation of the tubular pores corresponds to a biomechanically or biofunctionally intended direction of growth.

12. (Previously Presented) Formation material according to claim 1, wherein the tubular pores have radii in the region of from about 100  $\mu\text{m}$  to about 2000  $\mu\text{m}$ .

13. (Previously Presented) Formation material according to claim 1, wherein the blanks are in block form, each block comprising tubular pores that are spaced apart at a defined spacing with respect to one another, the spacing corresponds to a wall thickness of less than about 4000  $\mu\text{m}$ .

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14. (Previously Presented) Formation material according to claim 1, wherein the blanks have an overall porosity, defined by micro- and macro-porosity, of more than about 50% by volume.

15. (Previously Presented) Formation material according to claim 1, wherein the blanks with the substantially tubular pores have a macroporosity of from 25 to 50% by volume, and especially from 30 to 40% by volume, based on the overall porosity defined by micro- and macro-porosity.

16. (Previously Presented) Formation material according to claim 1, wherein the blanks have a block form that is a simple geometric shape.

17. (Previously Presented) Formation material according to claim 1, wherein the blanks define a semi-finished product, configured to allow subsequent mechanical processing and/or for individual adaptation in the case of bone defect in mouth or jaw medicine, orthopaedic surgery or trauma surgery.

18. (Previously Presented) Formation material according to claim 11, wherein the blank material is compressed, baked and/or sintered, only to a degree such that it can be processed using medical or dentistry tools available to a practitioner.

19. (Previously Presented) Formation material according to claim 11, wherein the block has been brought into the form of an individual prosthesis with the aid of a medical CAD/CAM method.

20. (Previously Presented) Formation material according to Claim 16, wherein the simple geometric shape is generally one of a cube, a tapered body, a rectangular box-like body, a wedge, a cone, a cylinder or a disc.

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Claims 21-38 (Canceled)

39. (Previously Presented) Formation material according to Claim 1, wherein the substantially tubular macropores have substantially uniformly sized diameters, and wherein some of the tubular macropores are arranged in the shaped body to cross through other of the tubular macropores.

40. (Previously Presented) Formation material according to Claim 3, wherein the substantially tubular macropores have substantially uniformly sized diameters, and wherein some of the tubular macropores are arranged in the shaped body to cross through other of the tubular macropores.

41. (Currently Amended) Resorbable bone formation material produced by:  
pressing a baked body of sintered  $\beta$ -tricalcium phosphate ( $\beta$ -TCP) into a blank body of resorbable bone formation material having micropores;  
shaping the blank body into a desired shape; and  
inserting macropores having a substantially constant width over at least a major portion of a length thereof into the shaped body, the macropores extending through the shaped body in at least two different dimensions whereby some of the macropores cross over other of the macropores and also ~~interconnect with~~ micropores.

42. (Previously Presented) Formation material according to Claim 41, wherein the inserting comprises drilling.

43. (Previously Presented) Formation material according to Claim 42, wherein the macropores are substantially tubular and wherein the micropores are interconnecting micropores.

44. (Previously Presented) Formation material according to Claim 43, wherein the

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macropores have a substantially common uniform diameter.

45. (Previously Presented) Formation material according to Claim 43, wherein the macropores are arranged as groups of substantially parallel macropores that extend through the body in three dimensions.

46. (Previously Presented) Formation material according to Claim 41, wherein the shaping is carried out by milling the blank body into the desired shape.